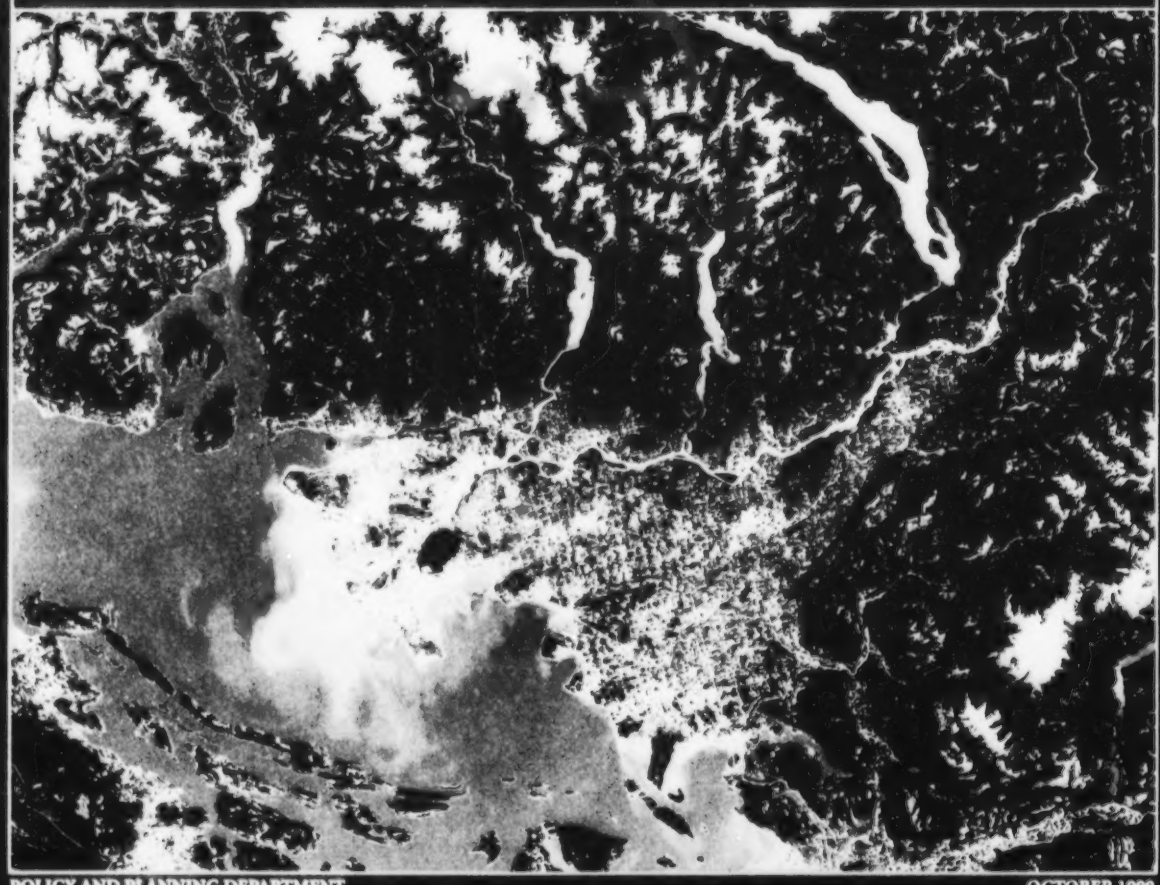
1999 ANNUAL REPORT

Livable Region Strategic Plan

Greater Vancouver Regional District



POLICY AND PLANNING DEPARTMENT

OCTOBER 1999

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Appendix A:
Livable Region Strategic Plan Monitoring Program Annual Indicators

Message from the chair, GVRD Board of Directors

The Livable Region Strategic Plan (LRSP) provides a regional framework for linking land use, environmental and transportation planning. It is a blueprint for how we work collectively to preserve and enhance our quality of life in Greater Vancouver.

The Municipal Act requires that an annual report be prepared on the LRSP. The annual report provides a valuable opportunity to share initiatives and highlight challenges.

Implementing the plan requires effective regional and provincial co-ordination, advancing the policy framework, and commitments from our member municipalities. Our 1999 Annual Report shows progress on all fronts.

Working with the Province of B.C., we created TransLink - a new authority responsible for managing the regional transportation system. (Under legislation, TransLink's goals must support the Livable Region Strategic Plan.) Its organizational structure gives us the ability to create a balanced transportation network. It also gives municipalities a real and direct say in how transit and transportation is both shaped and provided.

As chair of both TransLink and the GVRD, I have seen first-hand the importance of land use and transportation planning working together. TransLink's effectiveness will be assisted through land use patterns that make walking, cycling, and riding public transportation more convenient by:

- focusing population growth in the Growth Concentration Area
- concentrating employment and services in the downtown, regional and municipal centres
- promoting a greater variety of housing types in locations well served by transit.

With these land use patterns in place, residents will have new transportation choices, giving them the option to use their cars less and to use transit, walk, and cycle where practical.

The GVRD Board has now accepted Regional Context Statements from all member municipalities. This was a major accomplishment in co-ordinating local and regional planning policy. We can now focus on implementing the LRSP based on common goals. I am pleased to see in this report how well GVRD's member municipalities are doing in this regard.

Another notable achievement in 1999 was the GVRD Board's adoption of the Greenway Vision. This vision will help municipalities protect habitat and provide a regional recreational network in support of the LRSP's Green Zone provisions.

We can be proud of our achievements this year. Our livability goals for the region are ambitious, yet as we enter the new millennium, I believe that thinking regionally and acting locally will continue to be our recipe for success.

George Puil
Chair, GVRD Board of Directors

1. Introduction

This year, the GVRD's population reached the two million mark. The number of households exceeded 775,000 and the number of cars reached almost 1.2 million. In the last 30 years, our population has more than doubled. Although population growth has slowed considerably since the boom years of the mid-1990s, the GVRD continues to be one of the fastest growing regions in Canada. In the last year alone, GVRD's population grew by 30,000 people.

The GVRD manages growth and development through the Livable Region Strategic Plan. Its overall aim is to maintain a high quality natural and built environment for our citizens. The Strategic Plan does this by outlining policies to protect its rich natural environment and its farmland. This "Green Zone" also helps establish a long-term boundary for urban growth. The plan also contains policies to recognize land as a finite resource and to conserve it by concentrating growth rather than encouraging urban sprawl.

In 1996, the Livable Region Strategic Plan (LRSP) was adopted by the GVRD Board with the support of all twenty member municipalities.

The plan contains four key strategies for managing growth to improve Greater Vancouver's livability and environmental quality:

- **Protecting the Green Zone.** The Green Zone protects Greater Vancouver's natural assets, including major parks, watersheds, ecologically important areas and resource lands such as farmland. The Green Zone also establishes a long-term boundary for urban growth.

- **Building complete communities.** The plan supports the public's desire for communities with a wider range of opportunities for day-to-day life. Focused on town centres, more complete communities would result in more jobs closer to where people live, shops and services near home, and a wider choice of housing types. Planning land use in a convenient way helps minimize the need for long trips and makes alternatives to the car more practical.

- **Achieving a compact metropolitan region.** The plan avoids widely dispersed development and accommodates a significant proportion of population growth within the central part of the region. Concentrating growth allows more people to live closer to their jobs, make better use of public transit and community services, and slows the consumption of new land.

- **Increasing transportation choices**. The plan supports the increased use of public transit and reduced dependence on cars. It relies upon modest expansion in road facilities, strategically improved transit service, and the development of transportation demand management measures to support environmental, growth management, and accessibility objectives.

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The plan includes policies to help activities locate in a convenient way. Promoting centres as a focus for jobs, shopping, a variety of housing and community services helps support these policies. This pattern of development supports more choice in transportation. By arranging the region so cars can be used less, the region benefits from cleaner air, less land and money being put in roads, and less time spent in traffic jams.

Implementation of the Strategic Plan is realized through the actions of local, regional, and provincial government agencies. The Municipal Act requires that an annual report be prepared on the LRSP. The annual report provides a valuable opportunity to share initiatives and highlight challenges. The purpose of these "annual checks" is to determine whether or not change and development are leading toward or away from the plan's objectives. This assessment can be the basis for adjusting implementation actions, or for reviewing the objectives and policies at the municipal and regional level.

In June 1999, the GVRD Board of Directors endorsed "A Monitoring Program for the Livable Region Strategic Plan." This report identified several annual and five-year indicators to help determine in a systematic way if the Strategic Plan's policies and goals are being achieved. Many of the annual indicators recommended in the Monitoring Program are included in this report. The monitoring program should be considered as "work in progress." Over time, indicators will need to be refined and tested with member municipalities to find the most effective ways to chart progress. It is likely that some of the indicators will change as a result of experimentation with both the annual and five-year monitoring systems.

The GVRD Board has now accepted Regional Context Statements from all member municipalities. These statements provide support for achievment of the LRSP's objectives. This is a significant policy achievement and allows the GVRD and member municipalities to now focus on plan implementation. Around the region, there are many examples of plans, policies, actions and developments that support the Livable Region Strategic Plan. Member municipalities have provided for this report many examples of how they are meeting regional plan objectives. These "best practices" help demonstrate the fruits of working collectively to achieve regional planning goals.

The recent creation of a new regional transportation authority, TransLink, is a momentous initiative which could be key to supporting the Livable Region Strategic Plan. The new authority has responsibility for transportation planning, financing and providing public transit and the regional road network. The integration of all transportation functions is a very important step in the delivery of a balanced transportation system.

While integrated transportation planning is vital to the success of the Strategic Plan, achieving the plan's land use objectives is also vital to the success of TransLink. This annual report gives prominence to those land use patterns and developments that can help deliver a balanced transportation system for the region and help build communities at the same time.

Summary of accomplishments and challenges in 1999

Accomplishments

- Regional Context Statements from all municipalities accepted by the GVRD
- Translink established
- the GVRD Board adopts the Greenway Vision
- fewer applications received in 1998 to remove land from Agricultural Land Reserve
- greater awareness of centres as essential building blocks in livability and transportation choice
- strong retail investment in many centres
- new social services and higher education facilities locate in some centres
- housing mix shows a good supply of medium and high density housing
- household size rises slightly - resulting in less demand for land
- vehicle ownership per capita remains about the same
- municipalities increase opportunities for cycling and walking

Challenges

- continued vigilance needed to protect agricultural base
- proportion of population in Growth Concentration Area falls short of LRSP target
- dispersed employment patterns take away from opportunities for growth of major centres
- new ways needed to improve attractiveness of centres for office markets
- public transit investment needs to focus on increasing accessibility of centres
- non-profit housing funds not adequate to meet demand
- more buses required to meet needs of population

2. Policy and Organizational Initiatives

The approval of the Livable Region Strategic Plan (LRSP) set in motion a number of actions, some enabled by the Municipal Act provisions for regional growth strategies, and others required by the Act. These include:

- developing regional context statements
- providing GVRD physical infrastructure and services consistent with achieving the Strategic Plan
- establishing implementation agreements with the Province of B.C. and other organizations to support achievement of the Strategic Plan
- establishing an Intergovernmental Advisory Committee involving municipalities and the Province of B.C.
- requiring cross-acceptance of regional growth strategies with adjacent regional districts, including the Fraser Valley Regional District.

A clear set of guiding policies and an organizational framework to deliver regional planning are key to the LRSP's success. Significant progress has been made in the policy and organizational areas over the past year.

2.1 Regional Context Statements now complete for all municipalities

The GVRD has now accepted Regional Context Statements from all member municipalities. Regional Context Statements are a special form of implementation agreement between member municipalities and the GVRD Board. In order to link local and regional planning, each municipality is required by legislation to include a statement as part of its Official Community Plan (OCP). The accepted Regional Context Statements:

- confirm a clearly identified Green Zone and explain how it will be protected from urban development
- support the Parks and Outdoor Recreation System in the LRSP, including regional Greenways
- support a rich network of mixed-used urban centres across the region as the basis for complete communities
- acknowledge the need to achieve diversity in housing and job opportunities within communities
- recognize the LRSP's growth management directions and state the capacities of current OCPs to accommodate population and household growth
- contain commitments to work towards reaching the LRSP's growth management targets in the Growth Concentration Area[1].
- support transportation alternatives to the automobile.

[1] *Growth Concentration Area refers to the Burrard Peninsula municipalities of Vancouver, Burnaby, New Westminster, the Northeast Sector municipalities of Coquitlam, Port Moody, Anmore and Port Coquitlam and northern parts of Delta and Surrey.*

2.2 Organizational Initiatives

Regional transportation agency (TransLink) established

In 1998, the GVRD Board and the Province of B.C. agreed to establish a transportation authority for the Greater Vancouver region. This new authority called TransLink, came into being in 1999 and is responsible for managing the regional transportation system in the GVRD. Its innovative management structure has all the potential to use the tools of supply, demand and pricing to deliver a better system.

The legislation establishing TransLink requires that its goals support the Livable Region Strategic Plan (LRSP). This will help ensure that decisions on transportation spending support the plan's growth management objectives.

TransLink is a separate organization but closely linked with the GVRD. TransLink's success relies on GVRD regional planning, member municipalities and the development industry to create land use patterns that promote transportation alternatives. Finding effective organizational links to transportation and land use at the regional and municipal level will be essential as TransLink puts new programs and policies in place.

GVRD internal restructuring assists implementation of the LRSP

In 1999, the GVRD completed the restructuring of its utilities and strategic planning functions. Formerly, planning and service delivery was organized through four departments: Sewage and Drainage, Solid Waste, Water, and Strategic Planning. Three activity-based departments replaced them: Policy and Planning, Design and Construction, and Operations and Maintenance.

The restructuring of planning activities in the Policy and Planning Department increases the ability to integrate regional development and utility planning. It will also result in more emphasis on demand-side management for physical infrastructure.

Greater Vancouver Economic Partnership established

In April 1999, the Greater Vancouver Economic Partnership was established sponsored in part by the GVRD and TransLink. It is a private/public sector alliance that focuses on economic development of the Greater Vancouver region. Its main purposes are to further economic development, help establish economic development priorities and provide information to potential investors on business opportunities.

3. Implementing Strategic Plan Policies: How are we doing?

This section is organized around the four key Livable Region Strategic Plan objectives:

- Protecting the Green Zone
- Building Complete Communities
- Achieving a compact metropolitan region
- Increasing transportation choice

The annual indicators listed in the Monitoring Program are used where data are available. They are marked by ✓ and listed in Appendix A. Member municipalities have provided many examples on how their actions are helping to implement the LRSP.

3.1 Protecting the Green Zone.

The Green Zone protects Greater Vancouver's natural assets, including major parks, watersheds, ecologically important areas and resource lands such as farmland. By doing so, the Green Zone also establishes a long-term boundary for urban growth.

✓ Green Zone supports diverse, natural habitat

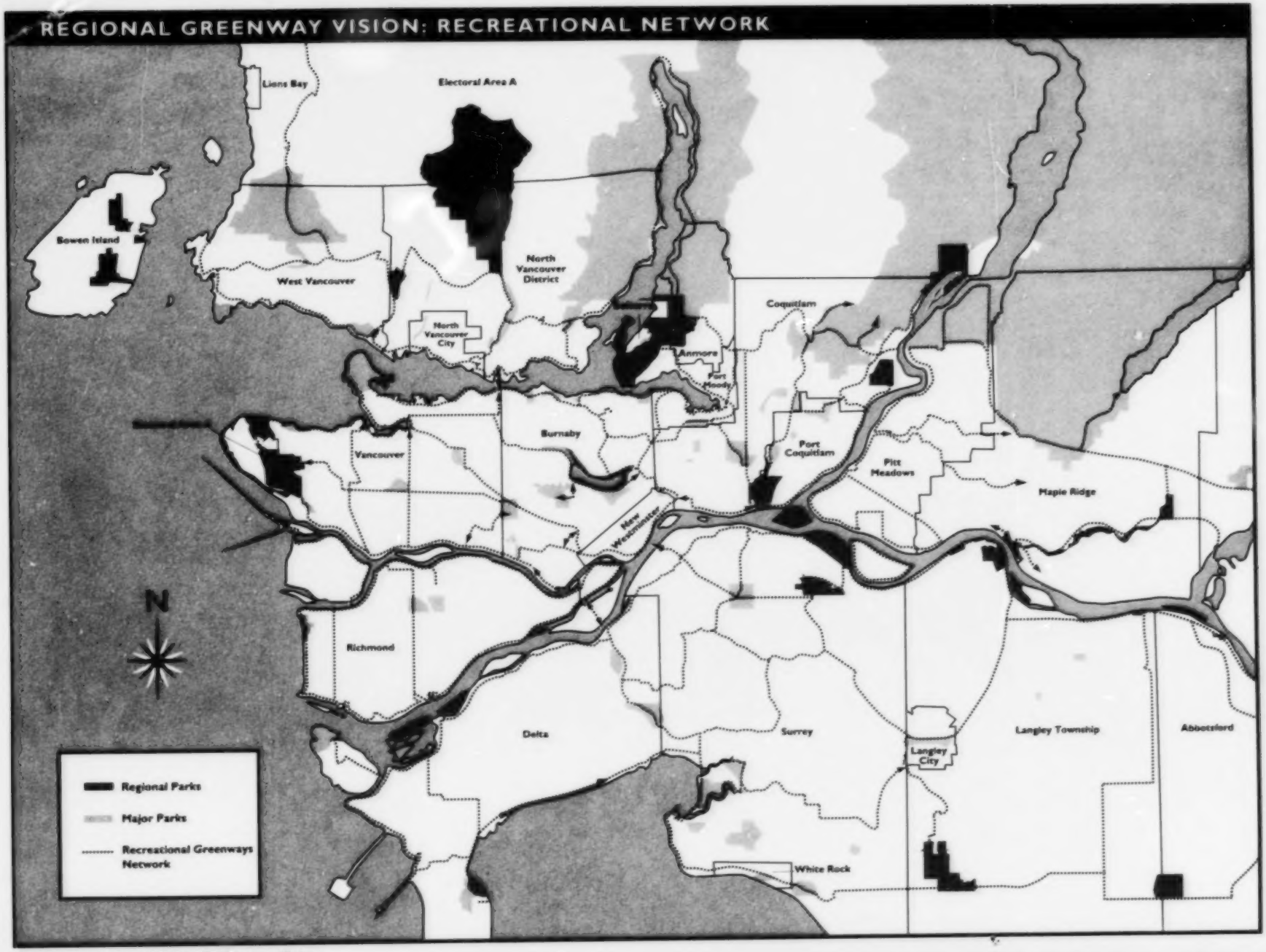
From 1991/92 to 1998/99, the number of hectares of protected habitat areas within the Green Zone almost tripled, from 30,430 to 91,730 hectares largely as a result of the Nature Legacy Program. This is about one-third of the total land area of the GVRD. One of the measures of biodiversity of the Green Zone is the number of threatened or endangered species. In 1998, there were 20 species in the Green Zone that were on the Province of B.C.'s "Red List" of threatened or endangered species.

Regional Greenway Vision approved

In June 1999, the GVRD Board approved the Greenway Vision. It broadly identifies recreational and environmental corridors throughout the region that connect habitat areas and provide links to major recreation areas. The Greenway Vision knits together the Greenways initiatives of member municipalities, co-ordinating them across municipal boundaries and ensuring that they are mutually supportive.

The Trans Canada Trail is a national project intended as a millennium celebration of Canada's history as a nation of trail builders and the magnificence of the country's environment. Scheduled for official opening in September 2000, the Trans Canada Trail will be the longest trail of its kind in the world and will provide a symbolic and physical link. The trail traverses many municipalities in the GVRD, and over the last year they have been busy designating and constructing their parts of the trail. The completion of this trail will help achieve the Greenway Vision.

A new access road in Belcarra Regional Park helps protect the residential area from traffic. About 2,000 hectares (70 per cent of the village's total area) of Anmore are in the Green Zone.



Recreation Network Map: **Greenway Vision**

Vancouver's Ridgeway

Cars are guests on Vancouver's Ridgeway Greenway, where priority is given to walkers and cyclists. Public reaction to the Ridgeway has been very positive. Residents along the route claim that it has dramatically improved their neighbourhoods, citing increased safety and amenity. The number of cyclists using the Ridgeway has continued to increase as it expands.

Vancouver's Ridgeway, which runs east-west along the central ridge on 37th Avenue, makes up part of the recreational network in the GVRD's Greenway Vision. When completed, Vancouver's Greenways will join important city and regional destinations to create a network that covers the entire city.

Together, the city's 14 Greenways will be about 140 kilometres long, and all residents will be within less than a 25-minute walk from a Greenway.

In June 1996, city council approved the construction of the Ridgeway Greenways Pilot Project, and the Ridgeway has been gradually developed since then. The city aims to make walking more interesting, cycling safer and more convenient, and to reduce the impact of cars. The use of public art makes the Ridgeway more pleasant and interesting. Seating, signage, drinking and fountains are provided along the route. Planting more trees and native plants along Greenways helps to make the city greener.

The Ridgeway is nearly complete. Much of its extension west to Blanca (UBC) is now under construction. Construction of the eastern extension from Victoria Drive to Boundary Road will begin in fall 1999, substantially completing the first Greenway to cross the city.

Protecting the agricultural land base

Approximately 16 per cent of the GVRD's land area is used for agriculture. While the Agricultural Land Reserve (ALR) within the GVRD represents only two per cent of the province's agricultural land base, it produces about one quarter of the value of the province's agricultural output.

Through its Agricultural Advisory Committee (AAC), the GVRD works with the Agricultural Land Commission (ALC) to raise the profile of agriculture and to address region-wide agricultural issues. Committee members represent a range of farm commodity groups and municipalities.

The AAC organizes the annual Farm Open House Day and agricultural displays at "Country Celebration" in Campbell Valley Regional Park. In 1999, it provided advice on:

- protecting lands designated as agricultural land reserve in the selection of lands for First Nations
- provincial agri-food policy
- updating the Commission on the Livable Region Strategic Plan.

Agricultural Land Commission figures show that the GVRD has 54,500 hectares in the ALR. The ALC tracks annual applications to convert agricultural land to non-farm purposes. In 1998, the ALC considered 23 applications in total: 200 hectares under application were approved for release while approximately 130 hectares were refused. There were fewer applications in 1998 than in recent years when the average number received was between 30 and 50.

The first "gatekeepers" for the ALR are individual municipalities, who turn down most applications received because they do not meet ALR objectives. In fact, only a small number are referred to the ALC for its consideration. Among the pressures municipalities are facing are the speculative purchase of agricultural land and the increasing number of people living within the reserve. Municipalities take many initiatives to assist in the stewardship of the agricultural land reserve.

COMMUNITY ENERGY HEATING

The City of North Vancouver is looking at installing a small-scale community energy heating system. The intention is to heat water at a central source and distribute it to a "superblock" of upcoming development in Lower Lonsdale.

The city is exploring this idea with B.C. Gas and B.C. Hydro as part of its initiative to reduce the use of electric base-board heating in new developments. Hot water (hydronic) heating is considered to be an environmentally friendly way to heat buildings and more energy efficient compared to conventional heating methods.

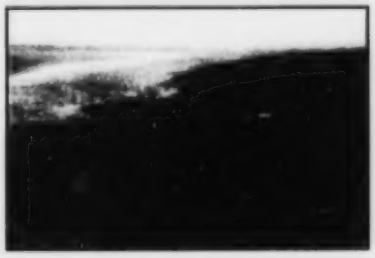
WATER RESOURCE MANAGEMENT PAYS OFF

Conserving water has both environmental and financial benefits. Reducing the demand for additional water storage preserves areas of the Green Zone. Financial benefits result from fewer pipes and dam infrastructure required to serve the region. Lawn sprinkling regulations in effect since 1993 have helped make significant reductions in per capita water consumption. Before regulations were in place, 1,233 litres per person were used on peak days. By 1998, that figure was cut by 25 per cent to 918 litres per day.

Stewardship of the Green Zone in Delta

Delta is involved in a process leading to several changes to its Official Community Plan (OCP) and bylaws to protect and stabilize the Green Zone. The initiatives include:

- adding policies to strengthen agriculture, balanced with wildlife habitat needs
- including ravine and riparian area guidelines, in co-ordination with the provincial initiative for streamside protection policy directives
- changing the land use designation of an area south of Ladner to "Agriculture"
- incorporating an Environmentally Sensitive Area map in the OCP



- adding waterfront land use designations resulting from the Fraser River Estuary Management Plan designations
- rezoning lands in the ALR that are zoned industrial to promote a viable agricultural industry.

Water Conservation Program in Richmond

The catalyst for developing a water conservation outreach program in Richmond was the State of the Environment Report, launched in spring 1998. This report assessed the environmental of Richmond's air, land and water. It found that per capita water consumption in Richmond was above regional averages. In response to this finding, the city's Livability Team developed a water conservation education program that included:

- creating a "Road Show" of panels explaining the importance of water conservation. These panels are on display at malls and community centres throughout Richmond.
- hosting a water-wise gardening workshop for Richmond residents in April 1999.
- working with Parks staff, UBC Landscape Architecture students and the Environmental Youth Corps to design and implement a water-wise demonstration garden in the city's first community garden, opened in July 1999.
- working with Rogers Cable to create a television ad explaining the importance of water-wise gardening.

Community garden in Richmond.

3.2 Building complete communities

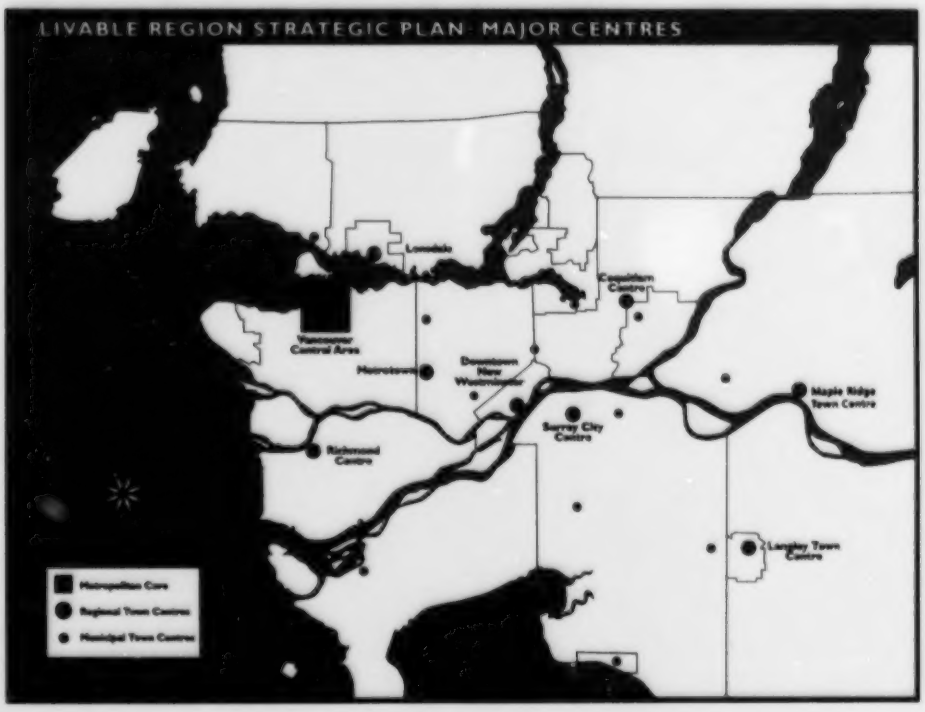
The Livable Region Strategic Plan supports the public's desire for communities with a wider range of opportunities for day-to-day life. Focused on town centres, more complete communities would result in more jobs closer to where people live, shops and services near home, and a wider choice of housing types. Planning land use in a convenient way helps minimize the need for long trips and makes alternatives to car use more practical.

Creating lively, functional centres

The Strategic Plan emphasizes the role of the metropolitan core, regional town centres and other municipal centres as focal points for office-based employment, shopping, education, entertainment and community facilities. These centres are the key building blocks in creating complete communities. They are also very important to the future of the transit system. By clustering jobs at a number of central locations, the number of jobs that can be served well by transit increases. In addition, the workers located in centres enjoy the convenience of shops and services they can reach at lunchtime and after work. Workers using the shops and services also enhance the viability of the centres.

Building a centre is a complex task. It involves attracting jobs, locating services, getting retail investment, providing good public transportation, adequate car access and short-stay parking for shoppers, and creating an interesting, inviting urban environment. Many of the regional town centres face both opportunities and challenges. On the opportunity side, many of the centres are continuing to attract retail investment. Several municipalities have been successful in getting higher density housing in and around the centres. Also, some municipalities have reported that social services and opportunities for higher education have increased, which allows local residents to access these facilities closer to home. There is also an increased awareness of the need to provide walking, cycling and transit access to centres.

There are challenges too. Many of the region's centres were developed in the "mall era," when retailing was concentrated in a large mall surrounded by parking lots at the intersection of major regional roads. This poses a major challenge to providing interesting, lively spaces and a mix of housing and offices. The facts that malls are large traffic generators and that regional roads carry high volumes of traffic mean that creating safe, inviting pedestrian environments will require particular attention and resources.



The Livable Region Strategic Plan includes three types of centres:
1) The Metrpolitian Core
2) Regional Town Centres
3) Municipal Town Centres

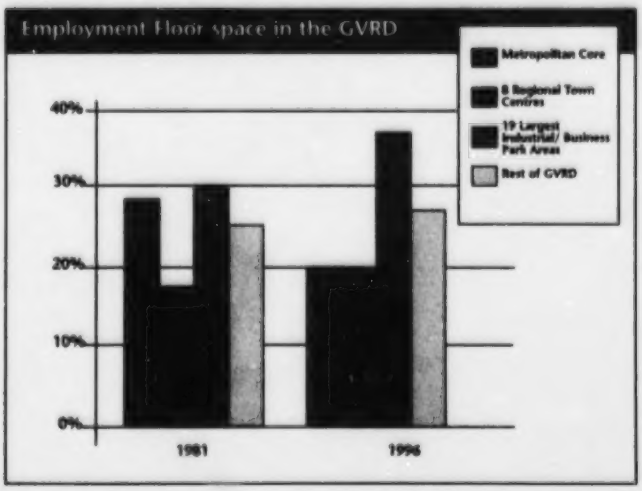
Another major challenge is enticing employers to locate their offices in centres, rather than outside of centres. A recent study of employment trends in the Lower Mainland (Lower Mainland Employment Study, 1999) highlighted the following trends:

- the Metropolitan Core district (downtown and Central Broadway) has declined in its dominance as a regional employment centre, but still accounts for about 20 per cent of all employment floor space in the region, compared to 28 per cent in 1981

- the 8 regional town centres share of employment floor space has increased slightly over the last 15 years, from 17 per cent to 20 per cent of all employment floor space (see map on page 13 which identifies the regional town centres)

- industrial and business office parks increased their share of employment significantly, over the last 15 years, and now make up about 37 per cent of all employment floor space (compared to 30 per cent in 1981).

Inexpensive land and free parking continue to make office park development an attractive alternative to a centre location. However, the Strategic Plan's objectives to create complete communities, compact cities, and transportation management are best met by the clustering of employment in centres. This will require a combination of municipal and regional actions, such as strengthening the appeal of existing centres for office development, discouraging retailing outside of regional, municipal and neighbourhood centres, and improving public transit access.



Variety of housing important to building complete communities

Another important part of the complete communities concept is providing our diverse population with a choice of housing.

A continuing challenge is how to provide an adequate stock of non-profit housing without federal funding, which is no longer available. However, the provincial government continues to fund the development of non-profit housing through its Homes BC program. Housing associations and housing co-operatives around the region are working with municipalities to create social housing. The Housing Task Group of the GVRD's Technical Advisory Committee encourages the production and preservation of affordable housing.

Some municipal initiatives are:

- legalizing of secondary suites that meet safety standards

- using density bonuses to encourage affordable housing (see City of North Vancouver p. 25)

- offering incentives for investment in purpose-built rental housing

- encouraging smaller, innovative housing units (see Port Moody and New Westminster p. 25)

- joining other cities and regions to request the federal government to reinstate funding.

In the following pages, there are several examples of how municipalities support regional town centres, municipal centres and neighbourhood centres.

The Metroplitan Core

New neighbourhoods add to dynamism and livability of Vancouver's downtown

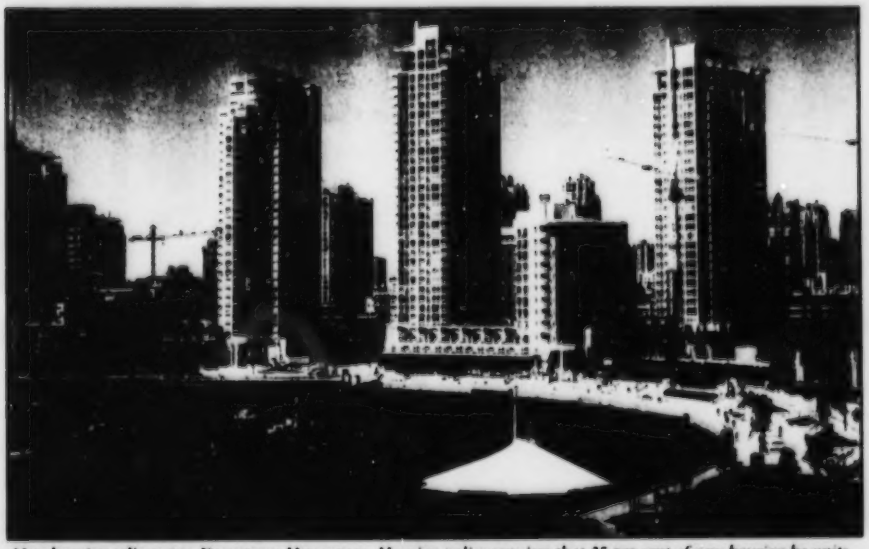
Historically, downtown Vancouver has been the main employment centre for the region. In recent years, it has also become one of the fastest growing population centres. The area, which includes all of the Downtown Peninsula east to Main Street (except for the West End), has doubled its population between 1991 and 1996 — from 8,900 to 17,400 residents. During that period, 5,500 new housing units were built. With another 2,000 added since 1996, the population today is around 20,000. Zoning capacity can accommodate another 16,000 units that will allow for the population to double again, reaching more than 40,000 by around 2021.

Housing polices for downtown focus on the need for housing variety, including families, and low income households. Housing policy for the waterfront mega-projects requires that 25 per cent of the units are suitable for families and 900 family units have been built so far. About 700 new non-profit housing units have been built and numerous existing buildings have been renovated as a result of these policies.

Many amenities have been added as part of the new downtown communities. About 60,000 square metres of retail space have been built into the new residential developments to provide neighbourhood conveniences at walking distance. About half of the 24 hectares of new parkland has been built including several kilometres of seaside pathways, providing continuous public access along the waterfront. Many new cultural facilities have been built over the past decade, including the Central Public Library, the Roundhouse Community and Arts Centre and GM Place Arena. Many more facilities are planned.

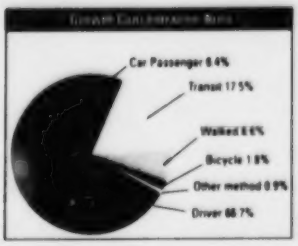
Downtown continues to be a significant employment centre. Employment has grown from about 120,000 jobs in 1991 to 133,300 in 1997. Downtown attracts many high technology firms, both incubator companies and large software developers. For example, Seagate, a software developer, recently recycled a building in Yaletown to accommodate their 500 employees. Residential rezonings are not supported in most cases in the downtown core to ensure there is a place for future office and hotel growth.

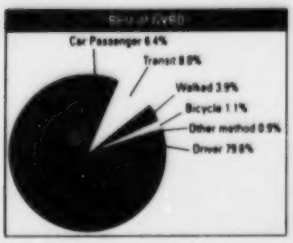
The success of having people live close to where they work is evident in the 1996 census data showing that 39 per cent of downtown residents walk to work, while the regional figure is six per cent. Also, downtown residents commute by car at half the rate of the region, at 36 per cent versus 71 per cent.

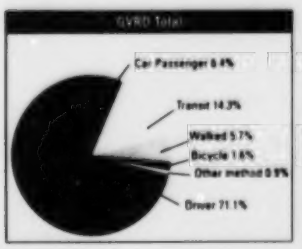


New housing adjacent to Downtown Vancouver. Housing policy requires that 25 per cent of new housing be units suitable for families.

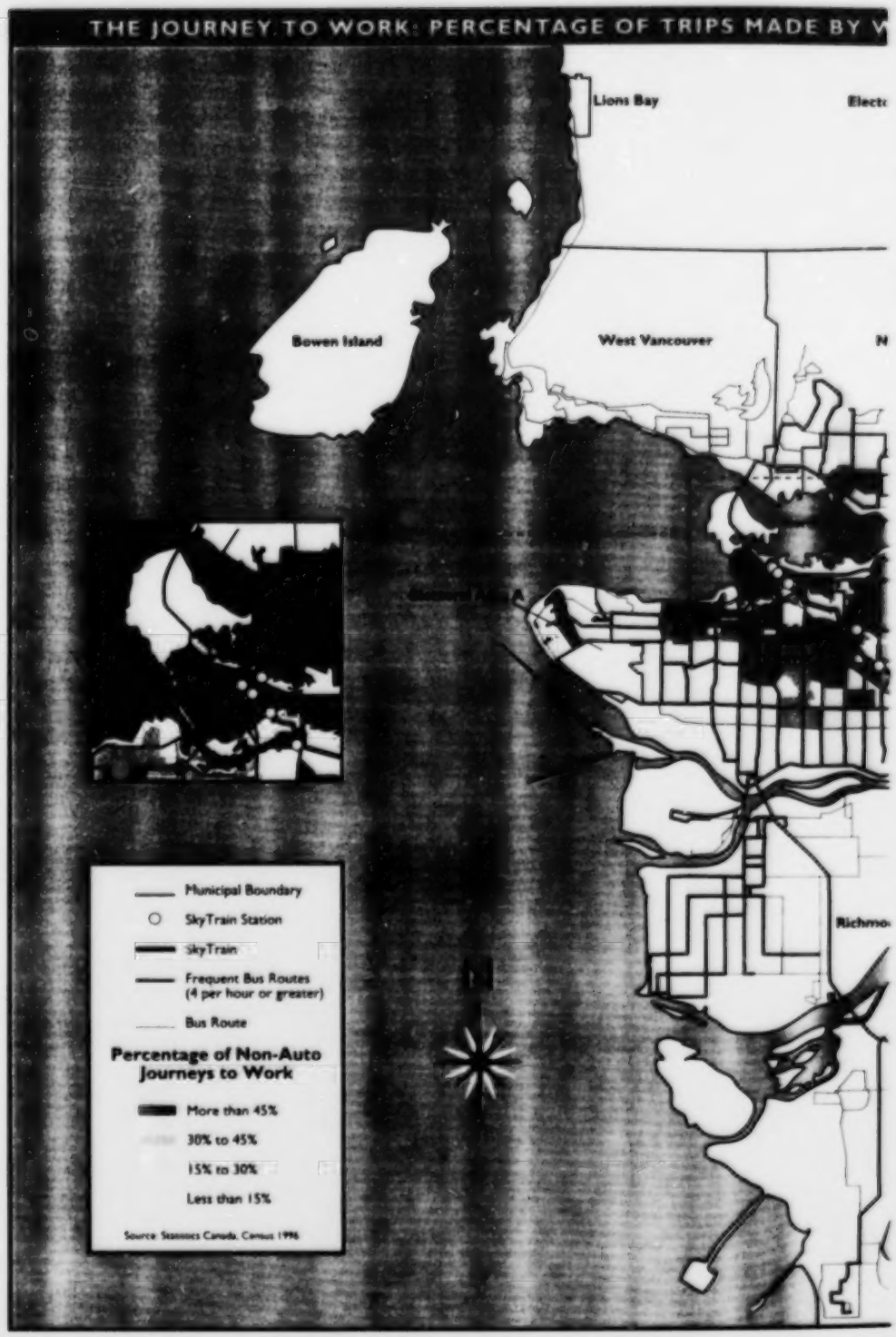
Journey to Work







Journey to Work by Mode, Statistics Canada 1996



G, CYCLING, AND TRANSIT COMBINED
er District
Anmore
Coquitlam
Fort Moody
Port Coquitlam
Pitt Meadows
Maple Ridge
Burnaby
Surrey
Langley Township
Abbotsford
Langley City
White Rock

Regional Town Centres

RICHMOND – VANCOUVER RAPID BUS IMPROVES REGIONAL ACCESSIBILITY

Following on from the success of the popular 998 express bus service in the Broadway corridor, TransLink completed the planning for a new express service in 1999. The Rapid Bus will begin operation in September 2000, and will link the Richmond Centre to downtown Vancouver with articulated buses running every three minutes in peak times. The estimated trip time from the Richmond Town Centre to the downtown is about 35 minutes. Focusing new office growth in the Richmond Town Centre will improve the regional accessibility of jobs in Richmond.

It has been labeled as a "train on rubber wheels," since customers will be treated to many of the amenities normally found on commuter train services - off board ticketing, digital signs at bus stops displaying arrival times of next buses, and new transit priority measures.

Spotlight on Richmond's downtown

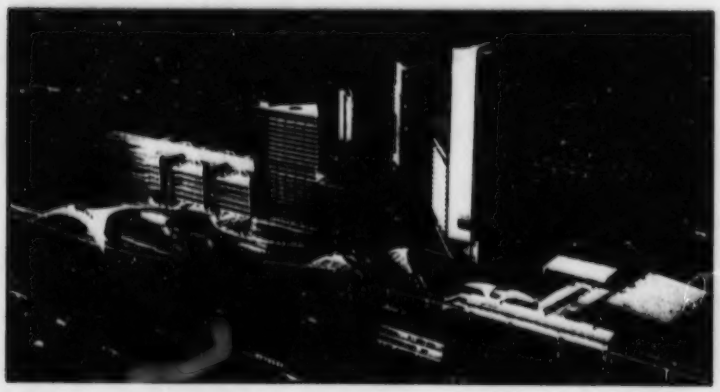
Richmond City Hall under construction

Over the last two years, Richmond has focussed much of its resources on enhancing its downtown area. The city took this action based on its belief that a more livable downtown will benefit the entire city, and an area plan (1995), an economic study (1996) and a comprehensive transportation plan (1997) supported it.

The city centre's transformation from a sprawling, low density, retail area to a higher density, mixed-use, community focus is aimed at preserving farmland and supporting viable alternatives to the car. Richmond's OCP targets more than 50 per cent of the city's growth for its downtown, which will roughly double its size to 60,000 people. In this vein, the city is working with TransLink on its Rapid Bus project, planned for completion in the fall of 2000. The city is also conducting a streetscape study of its main downtown artery, No. 3 Road, which is a precursor to a regional light rail network in Richmond.

In addition, the city has completed several projects that have already changed the face of the downtown area, including:

- Lang Park, the city's first urban neighbourhood park situated in the heart of the downtown's rapidly developing, high density core
- landscaped medians throughout the downtown area
- part of a downtown Greenways plan, with the assistance of private development
- a public art program, commission and the installation of three major artworks in the downtown
- a comprehensive "kit of parts" for the downtown, specifying everything from street light standards to drinking fountains
- new landscaped streets aimed at breaking the downtown into smaller, more walkable blocks
- a new city hall, to be ready for occupancy in mid-2000.



New University to locate in Surrey City Centre

The provincial government announced that a new technical university will be located in Surrey City Centre. This location is "transit friendly" for students and will also be a significant boost to the centre's activities. High-technology offices are expected to be attracted to Surrey City Centre near the university.

Major new developments in Burnaby Metrotown

The Crystal is a major mixed-use development nearing completion on a two-hectare site in the Metrotown core area. This site was part of a 10-year city land assembly initiative undertaken to consolidate this redevelopment area. The development contains retail, office, residential space as well as a Hilton Hotel.

Burnaby has four designated town centres that are the primary commercial focus for each of the city's four quadrants. They are associated with higher density residential development and existing or planned rapid transit and other infrastructure improvements. Of the four centres, Metrotown is the most dominant, providing both city-wide and regional town centre functions.

Burnaby Council adopted the development plan for the Metrotown area in 1978 as a key component of the city's and region's growth management strategies. Significant expansion of the town centre corresponded with the introduction of SkyTrain and the associated Metrotown and Patterson stations. Currently, retail and commercial floor area in the town centre totals about 600,000 square metres, accompanied by about 12,700 units of multiple family housing. Two major hotels are presently under construction.

Metrotown is the focus of the highest density office and retail complex uses within the City. It continues to contribute to regional and city objectives for more compact and complete communities by bringing together a planned integration of jobs, different housing types and supporting community and transportation facilities and services. Recent major civic investments in Metrotown facilities include the Bonsor Recreation Complex, Metrotown Fire Hall and the Bob Prittie Metrotown Library. It also provides daycare centres, a community school, community meeting spaces, public information kiosks, a bike loop, street improvements and Greenways. The city plans to open a community policing station at The Crystal (see photo caption), acquire more parkland and implement an urban lighting program for the core area.

Centre Checklist

Is there an up-to-date approved centre plan?

Is there an approved works program for centre beautification, pocket parks and infrastructure?

Are the centre's streets designed with the pedestrian in mind?

Is there good public transit access to the centre?

Is there private market interest for offices and shops?

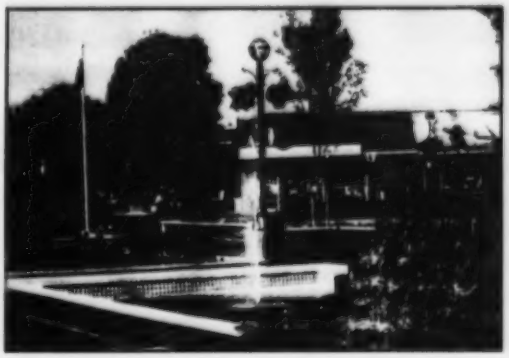
Are community facilities and services located in the centres?

Are there sites in and around the centre suitable for a variety of housing?

City of Langley revitalizes its downtown

Downtown Langley's position as a commercial centre began to erode following the development of regional shopping centres in the 1970s. In response, the city initiated a downtown revitalization effort in the early 1980s that focused primarily on beautification. While that program had some success, it did not stop the decline of commercial activity. In 1993, council identified downtown revitalization as its first priority and consulted with property owners and merchants who later formed the Downtown Langley Merchants' Association.

After mapping out a strategy for downtown revitalization based on physical improvements, beautification, traffic circulation, parking and marketing, the city enlisted the aid of consultants and the Province of B.C.'s Downtown Revitalization Program. The resulting Downtown Revitalization Concept Plan, completed in 1995, called for $2.5 million in civic improvements, including streetscape, public squares and pocket parks in the downtown area. In 1997, the city assumed control of Fraser Highway from the Province of B.C. and converted a 700-metre portion of it through the downtown core to one-way traffic flow, greatly increasing the availability of on-street parking.



To date, the city has spent approximately $2 million on downtown revitalization projects. These improvements, combined with the changes to traffic circulation and parking and enhanced marketing efforts, have already produced results. The city, downtown property owners and merchants have noted increases to assessed values, leasing rates and sales revenues. At the same time, a significant reduction in vacancies has been observed.

In the near term, downtown Langley will continue to develop an exciting new identity as a pedestrian-friendly alternative to malls, strip centres and big-box retailers. Over the long term, the continuing redevelopment of adjacent neighbourhoods to high-density, multi-family housing will provide a large population base, helping to ensure the continued viability of the city's heart.

Coquitlam adds facilities to Regional Town Centre

The City of Coquitlam has taken a number of steps to enhance its regional town centre. It has created a park, added community and recreational facilities, a new City Hall complex, 300,000 square metres of office and retail space and almost 10,000 residential units.

Much of Coquitlam's recent planning work is based on the assumption that the centre would be served by rapid transit. The LRSP identifies the need for a rapid transit route to serve the Coquitlam regional centre. However, current plans are for the SkyTrain to extend only as far east as North Burnaby. Coquitlam is depending on rapid transit to provide a catalyst for regional town centre development. If this service is not provided, the Northeast Sector will not have adequate transit to meet LRSP goals.

The Coquitlam Centre also supports various educational facilities, such as Douglas College and Pinetree Secondary School. The Pinetree Community Centre joins the college and high school.

Maple Ridge well on its way to creating a new town centre

The signing of a $50 million agreement between Maple Ridge and Voth Brothers Development Corporation on August 30, 1999 gives the green light to a redevelopment of downtown Maple Ridge, which is one of the GVRD's regional town centres. The vision for the new town centre is a lively, people-oriented, multi-purpose area with access for pedestrians, cyclists and automobiles. It will be a place to shop and do business, meet friends, take advantage of family activities and have convenient, central access to amenities.

Maple Ridge Regional Town Centre

The public facilities in the town centre plan includes a new 4,000 square metre high-tech library, a renovated leisure centre with a new youth centre, and an arts centre that includes a gallery, visual arts studio, a performing arts space with approximately 500 seats and a studio/rehearsal space. Voth Brothers will provide an office building, underground parking, and a hotel. The new development will also include a redesigned and expanded urban park. New buildings will be integrated into the existing town centre, adjacent to the Municipal Hall and the Haney Place Mall.

Municipal town centres, neighbourhood centres and urban villages

A vision for the Lynn Valley Town Centre, District of North Vancouver

"The Town Centre of Lynn Valley is the heart of Lynn Valley and therefore must reflect the community's aspirations, its pride, its heritage and its future. The focus of this plan is to strengthen the commercial function of Town Centre and make it more effective as a place to shop, live and work." (Lynn Valley Plan, endorsed by the District of North Vancouver, May 1998)

The Lynn Valley Town Centre is an integral part of the Lynn Valley Local Plan and includes objectives and policies in support of complete communities, such as:

- identifying suitable sites for multi-family development close to the town centre
- improving the pedestrian environment
- providing for a new town square
- designating the town centre
- focusing community facilities in the town centre, such as the library.

The plan also includes policies to discourage commercial development outside the town centre.

Port Moody's village centre, Newport, is located strategically between the older urban area and the newly developing north shore. The BOSA Development Corporation is making a major contribution to the development of the village centre through its 5.54 hectare, mixed-use development. When completed, the development will include 900 high density residential units, 6,000 square metres of office space and 7,000 square metres of retail space.

A blueprint for Port Coquitlam's municipal town centre

The Downtown Plan, completed for the city in 1998, outlines the long-term land use and policy plan to reinforce the downtown as a municipal town centre. Key elements of the plan include a retail High Street, mixed-use developments, cultural facilities and an adjacent multi-family residential district. City staff are also working with prospective developers to implement the design guidelines contained within the plan in order to achieve the desired architectural image for new downtown development. To further realize the High Street vision, the city began construction of a street beautification project along Shaughnessy Street during the summer of 1999. This project included new sidewalks, street trees, roadworks, street furniture, lighting fixtures and underground services. These initiatives will help to create a vibrant, complete community where residents can live, work, shop and play in the same area.

The Downtown Plan completed for Port Coquitlam in 1998.

Housing above shops in Vancouver's commercial zones.

Housing above shops energizes neighbourhood centres

In 1989, Vancouver City Council amended the C-2 and other commercial zones to permit three-to-four storey, mixed commercial/residential development, mainly on arterial streets. As a result of this amendment, approximately 25,000 housing units could be developed.

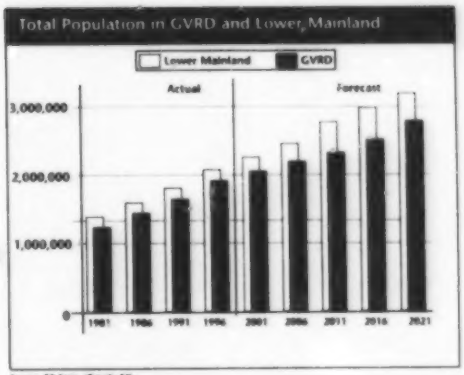
So far, between 1989 and 1999, nearly 3,000 dwelling units have been constructed. The increase in residential development on many of the city's arterials (including Broadway, 4th Avenue, Hastings, Dunbar, Granville and Oak Streets) is helping to extend the choice of housing available. More people living in neighbourhood commercial centres support local services and add vitality to these centres.

3.3 Achieving a compact metropolitan region

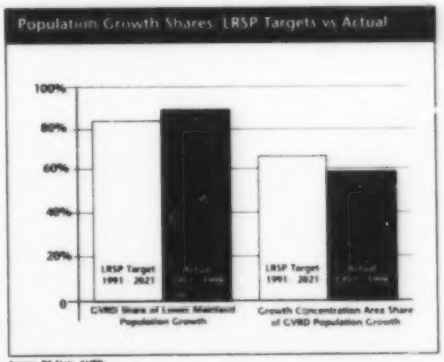
The Livable Region Strategic Plan avoids widely dispersed development and accommodates a significant proportion of the region's population growth within the central part of the region. Concentrating growth will allow more people to live closer to their jobs, make better use of public transit and community services, and slow the consumption of new land.

Concentrating residential growth

From 1997 to 1998, the GVRD's population grew by about 30,000 to reach 1,976,000. The growth rate from 1997 to 1998 was 1.5 per cent, considerably less than the 2.6 per cent annual average assumed for the Strategic Plan. The provincial government's latest forecast of future population growth, PEOPLE 24, suggests the Greater Vancouver's population in 2021 will be about 2.8 million. The Lower Mainland population is forecast to reach 3.2 million by 2021. (The LRSP was based on a forecast population of 3.06 million for the Lower Mainland by 2021.)



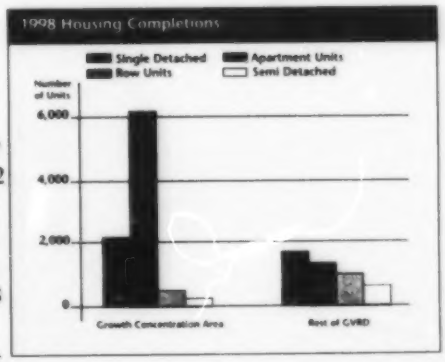
To achieve objectives of growth concentration, the Strategic Plan seeks to accommodate about 70 per cent of the GVRD growth in the Growth Concentration Area (GCA). In recent years, the GCA has been receiving between 60 per cent to 65 per cent of the GVRD's growth. In 1998, 63 per cent of the region's population growth was in the GCA, falling short of the 70 per cent target.

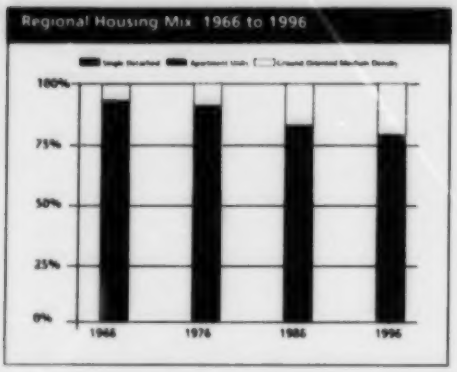


Between 1991 and 1996, the GVRD grew by about 230,000 people, which made up 84 per cent of the Lower Mainland's growth. In 1998, about 90 per cent of the Lower Mainland's growth was within the GVRD.

Changing housing mix means less residential land consumed and more variety

Between 1991 and 1996, the GVRD added approximately 83,500 dwellings. More than half of these dwellings (51.2 per cent) were apartments; 33 per cent were ground-oriented, medium-density dwellings (such as town houses) and 16 per cent were single-family, detached dwellings. The graph on this page tracks the housing starts for 1998 in the Growth Concentration Area and the rest of the GVRD, and shows a continued high proportion of apartment units.





Changing Housing Mix 1966 to 1996

In 1966, single-family homes made up almost 70 per cent of the housing stock, but decreased to 45.5 per cent by 1996. In recent years, the amount of ground-oriented, medium density housing such as townhouses has increased from 12 per cent to 18 per cent.

Secondary suites make an important contribution to affordable housing

The regulation of secondary suites is an important policy issue facing all municipalities. This form of housing can provide an important stock of affordable accommodation with little physical change to a neighbourhood. At the same time, building regulations and planning issues need to ensure safe accommodation and adequate community facilities to meet the needs of this population. In the last year, several municipalities have adopted policies on secondary suites, including the District of North Vancouver, Coquitlam and Port Coquitlam. These policies legalize secondary suites in most residential zones, provided planning and building code requirements are met.

West Vancouver responds to need for more housing variety

West Vancouver has recently approved the Whitby Estates subdivision by British Pacific Properties. The 40-hectare scheme includes 127 single-family homes in a variety of large lot sizes and up to 128 multi-family units. The higher density sites will be close to a future school and required commercial or community uses. The development also dedicates the three creek corridors to public ownership, two parks for active use and a network of trails.

Crofton Queen's Park in New Westminster

In 1990, the federal government decided to redevelop a housing project located on a seven-hectare site near the centre of New Westminster. This $70 million project includes a new 89-unit apartment to house existing tenants who are mostly retired veterans. (New units improve mobility and standard of living for senior and disabled tenants.) The project also includes a new 500-unit residential community, a new middle school and a new 1.7-hectare park.

Designed by Decosse Pattison Architects

Surrey approves South Newton neighbourhood concept

In June 1999, the City of Surrey approved a comprehensive neighbourhood plan for South Newton. This new 485-hectare neighbourhood is located northeast of King George Highway and Highway 10. The plan will ultimately provide about 6,000 housing units for 20,000 people. This development focuses on achieving a greater mix of housing types. Approximately half of the units will be townhouses, and the single-family areas will include both compact and conventional lot sizes.

The South Newton Neighbourhood Concept Plan includes the Panorama Village neighbourhood.

Providing more housing choice and conserving land:

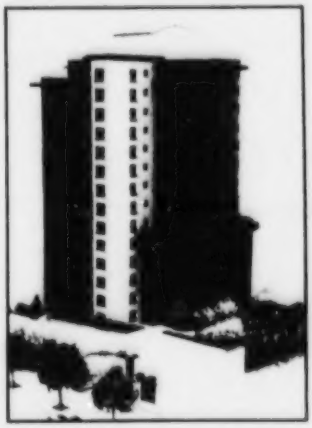
This townhouse development has been integrated into a single-family neighbourhood in Port Moody. The project, developed by Katan Developments, has 33 units on less than one hectare, for a density of about 36 units per hectare. By way of comparison, typical single-family dwellings would yield less than one-half the number of homes per hectare.

New Westminster provides a variety of housing

Riverside at Port Royal is the first of four phases in a waterfront community development along the Fraser River in New Westminster. Small lot, single-family homes — up to a maximum of 27.2 units per hectare — have been provided as part of this innovative project. A new zoning district was created to allow for the development of the small-lot, single-family homes. This designation can also be applied to other areas of the city.

Diversifying the Lonsdale Town Centre housing supply

The City of North Vancouver is working towards providing a diversified housing stock through density bonuses and other zoning amendments. A good example is the Royal Canadian Legion Redevelopment now under construction. Council rezoned the Legion property at 123 West 15th Street in 1998. The previous Legion Hall is being replaced by a 15-storey, mixed-use building. The ground floor will be owned by the Legion to reestablish their Licensed Facility and Meeting Hall. Through the rezoning process, Council gave a density bonus for 33 affordable rental units. These are to be owned and operated through B.C. Housing and will have accessible or adaptable designs. The remainder of the units will be stratified and sold at 85 per cent of market value. Resales will also occur at 85 per cent of market value.



Graphic Courtesy of Bel Tar Holding Limited

New housing in older neighbourhoods improves quality of centres

The City of Vancouver this year adopted its first two Community Visions, Dunbar and Kensington/Cedar Cottage. These "visions" are neighbourhood plans that were developed through extensive consultation with the communities. Both visions focused on improving the quality of the neighbourhood centres, and are in line with CityPlan. They increase opportunities for a wider range of housing and services in the centres. These visions will also help move towards a more compact metropolitan region by adding to the number and range of housing in the city.

In common with other commercial strips in Vancouver, Kensington/Cedar Cottage and Dunbar are experiencing change with the development of new three and four-storey, mixed-use buildings, mainly along the arterials. Proposals in these predominantly single-family neighbourhoods are for some redevelopment for row houses, duplexes, fourplexes and sixplexes, and housing designed for seniors, to provide a greater range of housing choices for all ages.

Another important element of the visioning program is to reinforce and improve the neighbourhood centres. Improved pedestrian access and safety are priorities in both communities.

Dunbar Village: providing a safe and inviting pedestrian environment.

Household size an important factor in land demand

Another important factor in the demand for urban land is household size — the number of people occupying one household. Back in 1961, the average household size in the GVRD was 3.65 people, so that meant about 27 housing units were needed to house every 100 people. Twenty-five years later, in 1986, household size had dropped to 2.59 people per household, meaning that about 39 houses were needed to house 100 people — more than a 40 per cent increase in the number of houses needed to house the same number of people. This dramatic drop in household size was a result of many social, demographic and economic factors, such as family size getting smaller, singles leaving home and setting up their own household, seniors living longer, expanding diversity in housing supply, especially apartments, and increasing affluence.

Recent analysis of the 1996 census has revealed that household size trends have reversed themselves from 1986 to 1996. The household size actually rose slightly from 2.59 to 2.63. If present trends continue, significantly fewer new housing units will be required in the region by 2021. While this is good news for dampening the demand for urban land, more work is needed to determine reasons for the increase in household size and long-term implications.

Average household size figures by unit type are important for the planning of community facilities, such as school facilities and other social services. The average household size for apartments increased from 1.57 in 1981 to 1.72 by 1996. In ground-oriented housing, the household size increased to 3.11 persons per household from 3.09 in 1981.

NEW BUSINESS PARK IN LANGLEY TOWNSHIP

The 200 Street Interchange Neighbourhood Plan covers the northwest section of the Willoughby Community Plan. At the request of landowners, the Business Park designation in this area has increased from 53 hectares (originally in the Community Plan) to 103 hectares. The draft neighbourhood plan envisions the area to be a gateway to Langley and permits high-end offices, light industrial and commercial uses. Consistent with Langley Township objective to provide "good jobs close to home" and GVRD's policy of building complete communities, the proposed land use concept allows the creation of up to 7,000 jobs and could reduce commuter traffic.

Commercial and industrial uses make up a significant proportion of urban land

Commercial and industrial uses account for about 20 per cent of the urban land in the GVRD. Most industrial uses require space for production, storage, and truck movements and, therefore, typical industrial densities are low. However, recent trends have shown a significant growth of office employment in business parks, often in single or double storey buildings. These sorts of developments do not meet the Strategic Plan objective of minimizing the use of urban land.

For example, a 10-storey office building located in a centre with 1,000 square metres per floor and underground parking could provide enough space for about 500 workers. The land area for the building could be as small as 1,000 to 2,000 square metres. However, in a typical business park with surface parking for each employee, the same number of workers could occupy up to 12 times as much space. The problem is amplified because these locations are only accessible by car and therefore more road space is needed to serve these locations. This issue is discussed in more detail in the Complete Communities section of this report.

3.4 Increasing Transportation Choice

The Livable Region Strategic Plan supports the use of public transit and reduced dependence on the single-occupant automobile. It relies upon modest expansion in road facilities, strategically improved transit service, and the development of transportation demand management measures to support environmental, growth management and accessibility objectives.

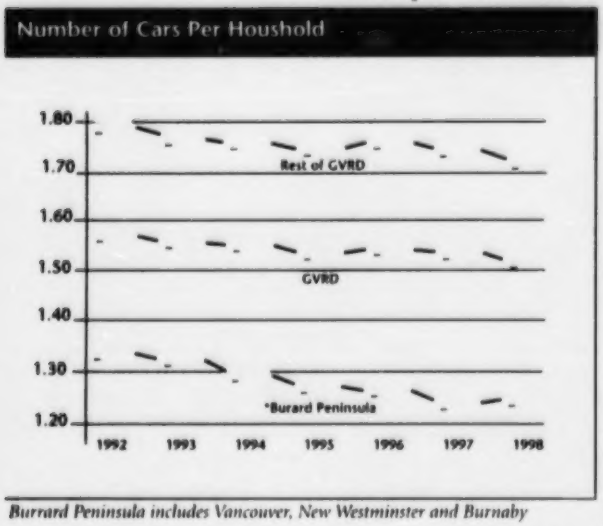
ARRANGING LAND USE CONVENIENTLY CAN HELP DAMPEN DEMAND FOR CAR TRAVEL

The legislation establishing TransLink, requires it to be consistent with the Livable Region Strategic Plan. This will help ensure that decisions on transportation spending support the growth management objectives of the Strategic Plan. However, TransLink's success relies on member municipalities and the development industry creating land use patterns that make walking, cycling, and riding public transportation more convenient by:

- focusing population growth in the Growth Concentration Area
- concentrating employment and services in the downtown, regional, and municipal centres
- promoting a greater variety of housing types in locations well served by transit.

The degree that land use policies can create a range of transportation choices will be critical to the cost-effectiveness of future transportation investment, both in transit and road infrastructure. With these land use patterns in place, new transportation choices will become available to people giving them the option to use their car less and use transit, walk, and cycle where practical.

Recent trends in vehicle ownership are a good news/bad news story. Per capita vehicle ownership has remained fairly constant, at 0.58 cars per capita. But strong population growth means a continued increase in the number of cars sharing the region's roads. For example, in 1998 the GVRD's population grew by 30,000 and the number of vehicles by 16,000.



Burrard Peninsula includes Vancouver, New Westminster and Burnaby

Vehicle ownership by location within the region shows an important pattern. The more dense areas (the Burrard Peninsula-Vancouver, Burnaby, and New Westminster) have lower per household car ownership than the rest of the GVRD. These areas are better served by public transit and generally have shops and services within walking distance. This gives more households the choice not to own a first or second car.

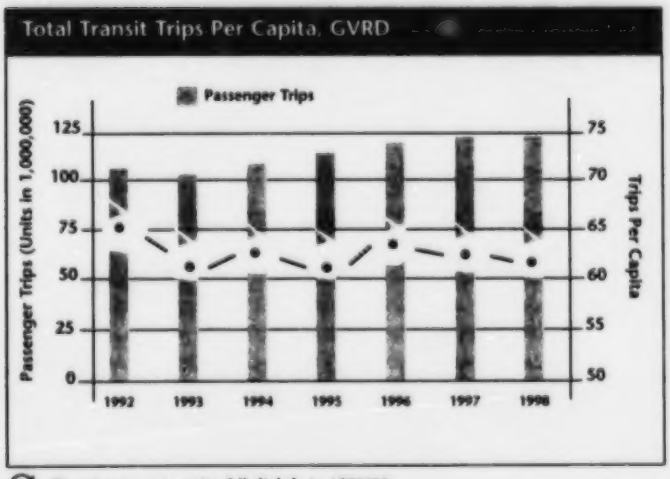
The map in the centre of this document show the proportion of trips to work made by transit walking, and biking. People living near job centres and those with good public transit use the car for commuting far less. For example, in the West End almost 40 per cent of the labour force walk to work. In New Westminster, some neighbourhoods have 40 per cent of their labour force commuting by transit. This highlights the importance of focusing new jobs and housing in centres.

More transit services needed

TransLink has assumed responsibility for regional roads, referred to as the Major Road Network. As of June 1999, there were 2,200 lane kilometres of regional roads. TransLink's emphasis will be on making the existing network more efficient rather than on road expansion.

Transit facilities have risen modestly over recent years, but have not kept pace with population growth. In 1993/94, there were 809 buses servicing the Vancouver Region in peak periods. By 1997/98, the number had risen to 845. The number of SkyTrain cars has increased from 116 to 136 cars during this time. Meanwhile the population of the GVRD grew by 300,000 during this period. Transit trips per capita have dropped from 64.8 in 1992 to 62.2 to in 1998.

TransLink has begun preparation of a strategic transportation plan, with a draft to be completed in early 2000. This plan will help match potential revenue sources with transportation infrastructure demands. One of the significant challenges will be to provide continuous funding for new buses.



Transit trips per capita fell slightly in 1997/98.

Positive signs for increasing transportation choice

There is increasing recognition of the need for more transportation choice. And some innovative solutions are appearing all over the region. For example, TransLink is working with Surrey and White Rock to plan a community bus route. Many municipalities are improving their cycling facilities, such as dedicated bike lanes and bike racks at transit nodes. The 99B route now has bike racks on all buses. Dozens of schools are involved in the "Way to Go Program" to encourage children to walk and cycle. This program was initiated by the GVRD and is now run by ICBC. BEST, a bicycle advocacy group, sponsored another successful "Bike Week" in June 1999, to coincide with Clean Air Day. The Co-operative Car Network in Vancouver provides an alternative to private car ownership.

Increasing Transportation Choices

UBC converts road space to cycling space

Completed in August 1999, the conversion of this 2.5 km stretch of University Boulevard from four lanes to two vehicle lanes, and the addition of two bike lanes is the first of its kind in the GVRD. This action originated from the UBC Official Community Plan and Strategic Transportation Plan process. In a recent survey of UBC commuters, 45 per cent noted that they would bike to UBC if facility improvements were made. With this and other UBC route improvements, the number of cyclists is forecast to increase significantly in the next five years. Currently, about 2,000 cyclists regularly ride to UBC.

New bike lane on University Boulevard, UBC.

EXPANDED SKYTRAIN SYSTEM

In mid-1998, the provincial government announced an expansion of the SkyTrain system to serve the Broadway/Lougheed Corridor and to link New Westminster to Lougheed Mall by 2001. An extension to Coquitlam Centre and a westward terminus to Central Broadway are also planned by 2003. The provincial government's Rapid Transit Office is the design-and-build authority for the SkyTrain project. Municipalities have been asked to work with this office in the design and mitigation measures for the new line. Issues such as integrating the new line in the existing urban fabric, impact on neighbourhoods, noise impacts, and environmental concerns need to be addressed.

COMMUNITY BUS 2000

The conventional bus system in outlying communities has primarily focused on the journey to work. TransLink has initiated a demonstration project with Surrey and White Rock to provide a community bus circulator system. This service will link residents to nearby shopping centres and to services such as doctors' offices and libraries. Four or five service options will be tested for public acceptance and ridership potential. TransLink intends to begin the service by fall of 2000. The benefits to these communities are significant:

- greater use of transit
- promoting complete communities
- giving accessibility to those without cars, such as children, teens and seniors.

CAR CO-OPERATIVE PROVIDES AN ALTERNATIVE TO PRIVATE CAR OWNERSHIP

Here's an innovative idea that helps beats the high environmental and financial costs of car ownership. A handful of environmentally minded people in the West End got together and created a not-for-profit co-operative of jointly owned cars. Most members rely on walking, biking or transit for their trips, but enjoy the convenience of a car to occasionally visit friends/family in areas not served by transit or to shop for bulky goods. The co-op offers flexibility by lending cars on an hourly basis and making them available in the neighbourhoods where members live. By September 1999, the Co-operative Auto Network had 375 members and 24 cars.

INTEGRATING TRANSIT AND LAND USE IN PITT MEADOWS

In 1999, Pitt Meadows completed its OCP. Integrating transit and land use is one of the key elements of the plan. The plan seeks to increase the amount of housing close to West Coast Express stations. Pitt Meadows is also improving cycling access in and around the municipality. For many commuters, cycling to the train can be a cost-saving alternative to supporting a second car. Pitt Meadows has recently constructed bike lanes on two arterials: Harris Road and Dewdney Trunk Road.

REDUCED CAR USE HELPS TO IMPROVE AIR QUALITY

Air quality is an important indicator of environmental quality in the Georgia Basin. Between 1987 and 1996, the ambient air quality improved significantly. The number of hours of 'fair' and 'poor' air quality decreased by 95 per cent, from 721 hours to 61 hours. Most of the gains were made between 1988 and 1994. Air quality has remained fairly constant since 1994 through 1998. The improvements were a result of a decrease in industrial pollution (primarily from oil refineries ceasing operations), technological improvements to vehicle emission systems, and the introduction of AirCare. With forecast population growth and accompanying growth in the number of cars, continued vigilance will be need to maintain and possibly improve our region's air quality.

Reducing greenhouse gases (mainly carbon dioxide and a variety of other gases such as methane) is a priority for the region. The federal government in 1997, through the Kyoto Protocol, made a commitment to reduce Canada's greenhouse gases to six per cent below 1990 levels by the period 2008-2012. As shown below, the two largest and growing sources of greenhouse gas emissions are from transportation and heating/cooling buildings. Increased energy efficiency and reduced travel by car will help the region achieve lower emissions.

SOURCES OF GREENHOUSE GAS EMISSIONS IN OUR REGION

	1995	1997
Industry	32%	22%
Transportation	35%	39%
Building heating/waste landfills	33%	39%

Source: GVRD Air Quality Department

Appendix A: Livable Region Strategic Plan Annual Indicators

Code	Annual	Relevant LRSP Policies	Included[d]
	GREEN ZONE		
GZ1	area of ALR proposed for exclusion or non-farm uses	protect Green Zone areas at risk from urban development, and minimize pressure on the Green Zone through management of urban areas	Yes
GZ2	total value of farm-gate sales	enhance planning for agriculture as part of the region's economic base	—
GZ3	number of endangered or threatened species (provincial "Red List")	enhance the viability of the region's ecology	Yes
GZ4	number of hours of fair or poor air quality	reduce air pollution from vehicles and fulfill Greater Vancouver's role in maintaining environmental quality in the Georgia Basin	Yes
	COMPLETE COMMUNITIES		
CC1	number and proportion of total and new households, by structure type, by sub-region	seek a diversity of housing types across the region	Yes
CC2	number and proportion of total and new households within 400 metres of 'good' transit[a]	seek development of transportation services and facilities that support local access to centres and population and employment growth targets	—
CC3	number and proportion of total and new households in municipal and regional centres and corridors[b]	seek development of a network of high-quality, mixed-activity urban centres, and achievement of adequate densities in centres and transportation corridors to support planned transit services	—
CC4	benchmark price for housing, by structure type by sub-regions	seek a diversity of housing types and costs in each part of the region	—
	COMPACT METROPOLITAN REGION		
CM1	total population and share of annual population growth, for the GCA and GVRD	seek to achieve population growth management targets for 2006 and 2021	Yes
CM2	number and proportion of ground-oriented housing inside and outside the GCA[c]	seek further opportunities for ground-oriented housing, particularly in the GCA	Yes
CM3	non-residential building permit values, for the GCA and GVRD	seek a distribution of business investment that supports LRSP objectives	—
CM4	number of vehicles crossing the GVRD eastern boundary, in-bound	seek travel levels across the GVRD eastern boundary that are consistent with development of complete communities in the Fraser Valley	—
	INCREASE TRANSPORTATION CHOICE		
TC1	total and per capita number of car kilometres driven	increase transportation choices to reduce automobile-dependence	—
TC2	total and per capita transit ridership	plan and implement a transit-oriented transportation system	Yes
TC3	participation in regional ride-share program	pursue transportation demand management strategies	—
TC4	lane-kilometres of major road network and provincial and federal highways, total and per capita	plan and implement an automobile-restrained transportation system	Yes
TC5	kilometres of streets with sidewalks and kilometres of bike lanes	seek enhancements to local streets to favour transit, bicycle and pedestrian uses	—

Notes:

a - 'good' transit service is defined as 10-minute frequency for the in-bound direction in morning peak period

b - the major centres and corridors included in the analysis will be determined through consultation with member municipalities

c - the definition of ground-oriented housing will be refined in consultation with member municipalities

d - included in this report